REMARKS

This amendment is in response to the Office Action mailed February 11, 2003.

The Examiner objects to the title of the invention. In response, a new title is added which applicants believe is descriptive of the claims.

The Examiner objects to the specification because the serial number for the referenced application and its filing date was not included. In response, the serial number and filing date are now inserted in the application.

The Examiner objects to claims 1, 6 and 11. The Examiner suggests amendments to be made to the claims that would remove his objections. In response, the claims are amended according to the Examiner's suggestions.

The Examiner also objects to claims 28 and 30 and suggests amendments to remove his objections. Both claims 28 and 30 are amended in accordance with the Examiner's suggestions.

Regarding claim 24, the Examiner suggests that a semicolon be inserted after "thread" in line 6 of claim 24. The Examiner also states that "storage" should be inserted after "shared remote" in line 9 of claim 24. Applicants wish to point out that "storage" is already in the claim. Therefore, there is no need to amend the claim as the Examiner suggests.

Claims 27, 29 and 30 are rejected under 35 USC 102(e) as being anticipated by Joy et al., U.S. Patent No. 6,341,347 B1. The Examiner argues that elements a) and c) of

applicants' claim are disclosed at col. 4, lines 17-27 of Joy et al.

In response, applicants respectfully disagree with the Examiner and argue that nowhere in the Joy et al. reference including col. 4, lines 22-27, is a teaching of a) a priority FIFO for storing thread numbers and c) an arbiter for determining the thread execution priority among multiple threads based upon signals outputted from the FIFO buffer and the state machine. Col. 4, lines 17-27, of Joy et al. teaches a thread reservation system. No reasonable interpretation of this language could ever be construed as teaching elements a) and c) of applicants' claim 27. This being the case, claim 27 and dependent claims 29 and 30 are not anticipated by the reference.

It is settled law that in order for a reference to anticipate a claimed invention every element of the claim must be shown in a single reference. As argued and pointed out above there is no disclosure or teaching of elements a) and c) in Joy et al. Therefore, the claims are not anticipated. It is noted that the Examiner on pages 4-6 of the Office Action has put forth complex arguments why the reference would anticipate claims 27-30. It is applicants' contention that under 35 USC 102 the claimed element is either present in the reference or it is not. If it is present the Examiner needs only to point to it in the reference and where in the specification it is described and need not make complex argument and deduction as is set forth in the present Office Action. It is applicants' contention that the reference does not show the elements a) and c) listed in claim 27 and incorporated in claims 29 or 30 due to dependency on claim 27. As a consequence claims 27, 29 and 30 are patentable over the art of record.

Claims 1-7, 9-17 and 19-22 are rejected under 35 USC 103(a) as being unpatentable over Joy in view of Callon et al. U.S. Patent No. 5,251,205. The Examiner's

argument in support of the rejection is set forth on pages 6-14 and can be referred to if necessary.

In response to this rejection applicants first argue the Examiner misconstrued the references. With respect to Joy et al. U.S. Patent 6,341,347 B1 the Examiner argues that the reference teaches queuing multiple execution threads and relies on col. 4, lines 17-22 for support. As argued above and incorporated herein by reference no reasonable interpretation of any language in the reference or the one particular set forth in col. 4, lines 17-22 could ever construe that that teaching covers queuing. Instead, Joy et al. uses a different technique for switching from one thread to another. Applicants direct the attention of the Examiner to col. 13, lines 5-23. It is clear from this teaching and Figure 5 that the inventors in Joy et al. are using flip-flop logic in order to make the selection whereas in applicants' invention applicants are using queuing. In view of this difference applicants argue that an artisan viewing the Joy et al. reference would not make the combination that the Examiner suggests because the teaching in Joy et al. is inapposite to that of applicants' invention. In fact, the Joy et al. reference teaches away from applicants' invention. It is settled law that when a reference teaches away from claimed invention an artisan viewing a combination would not form the combination that would render applicants' claim obvious.

Regarding Callon et al. U.S. Patent No. 5,251,205 the Examiner on page 7 states: "Callon has taught the well known concept that router information is represented and accessed via tree structure (see Fig. 1A)." Applicants respectfully disagree with the Examiner's interpretation of Callon and argue that Callon in general and Fig. 1A in particular does not show tree structure for data as the Examiner seems to suggest. Instead, Figure 1A is showing a tree structure for the router and not the data structure as the Examiner suggests. In view of the fact none of the references teaches what the

Examiner suggests it is applicants' contention that even after the Examiner's combination the resulting reference would not render applicants' claim obvious. As a consequence, the claims are patentable over the art of record.

It is settled law that in order to form a combination that renders applicants' claim obvious at least one of the references should suggest motivation for the combination. It is applicants' contention that none of these references suggest any motivation for the combination which the Examiner attempts to form. In fact, as argued above and incorporated herein by reference the Joy et al. reference teaches away from applicants' invention. Therefore, an artisan viewing these references would not form the combination which the Examiner suggests. In view of the fact that the teachings in the reference are completely inapposite to that of applicants' claimed invention applicants see no reason at this point to amend the claim as originally filed.

Claims 8 and 18 are rejected under 35 USC 103(a) as being unpatentable over Joy in view of Callon in view of Parady (U.S. Patent No. 5,933,627) and further in view of Horvitz (U.S. Patent No. 6,067,565).

In response, applicants would like to point out that both claims 8 and 18 are combination claims depending upon claims that require queuing. As argued above the Examiner base references Joy and Callon do not teach queuing. The newly cited references Parady and Horvitz do not address queuing. Therefore, these references are merely cumulative and for reasons set forth above do not render claims 8 and 18 or the claims on which they depend obvious. Therefore, claims 8 and 18 are patentable over the art of record.

Furthermore, it is argued that claims 8 and 18 are patentable distinct because none of the references selectively load separate instruction pre-fetch buffer as recited in the claims. The benefit of this feature is to improve processor performance. The method steps are novel and when combined with benefits are indicia of unobviousness.

Claims 24 and 25 are rejected under 35 USC 103(a) as being unpatentable over Joy in view of Parady. The Examiner's argument in support of the rejection is set forth on pages 15 and 16 of the Office Action. For brevity, the Examiner's argument is not repeated here but can be referred to if need be.

In response, applicants have amended claims 24 and 25 to include the FIFO buffer which stores thread priority number. As argued above and incorporated herein by reference, this structure is inapposite to the teaching in the reference. Therefore, the Examiner's combination would not render claims 24 and 25 obvious.

Claim 26 is rejected under 35 USC 103(a) as being unpatentable over Joy (U.S. Patent 6,341,347) in view of Parady (U.S. Patent No. 5,933,627) in view of Lee et al. (U.S. Patent No. 5,404,560) and further in view of Horvitz (U.S. Patent No. 6,067,565). The Examiner's argument in support of the rejection is set forth on pages 17 and 18 of the Office Action. For brevity, it is not repeated here and can be reviewed if need be.

In response to this rejection applicants argue the combination is improper in that there is no motivation as to why an artisan viewing these references would form the combination which the Examiner suggests. It is settled law that in order for references to be combined to render a claim obvious the motivation should be in at least one of the references or the Examiner give logical and concrete reasons why the combination would

have been obvious to one skilled in the art. By the Examiner's own argument it appears that none of the references set forth the motivation. The Examiner's argument does not set forth any logical or concrete reason why an artisan viewing these references would form the combination. Because none of the references disclose a motivation for the combination and failure of the Examiner to set forth logical and concrete reason, it is applicants' contention that the Examiner does not meet his burden of proof in presenting a prima facie case of obviousness. Therefore, claim 26 is not rendered obvious by the Examiner's combination.

Claim 28 is rejected under 35 USC 103(a) as being unpatentable over Joy et al. (U.S. Patent No. 6,341,347) in view of Nikhil et al. (U.S. Patent No. 5,499,349). The Examiner's argument in support of this rejection is set forth on pages 18-20 of the Office Action. For brevity, the Examiner's argument is not repeated here. However, a detailed study of the Examiner's argument seems to suggest the argument is based upon hindsight and information gleaned from applicants' invention disclosure. For example, the Examiner on page 19, item b). of the Office Action states: "Joy has also implicitly taught means for unloading a thread number from the FIFO when a packet has been enqueued for transmission".

There is no such implicit teaching in the Joy et al. reference. As argued above and incorporated herein by reference Joy et al. does not teach a thread execution control as set forth in claim 28. It appears as if the Examiner misconstrued Joy and as a result concluded that it discloses applicants' claim 28. As argue above and incorporated herein by reference the entire teachings in the Joy et al. reference do not disclose the thread execution control as disclosed in claim 28. The reference Nikhil et al. does not provide the deficiency which is present in the Joy et al. reference. Therefore, the Examiner's

combination does not render claim 28 obvious in that several elements of the claim would not be present in the Examiner's combination.

Moreover, as argued above and incorporated herein by reference the Examiner's combination is improper since there is no motivation set forth in any of the references for the combination and the Examiner has not given any concrete and logical reason why an artisan viewing these references would ever form the combination suggested by the Examiner. It is settled law that hindsight based upon applicants' disclosure should not be used as the basis for forming the combination. For reasons set forth above it appears as if hindsight in forming the combination is present and as a consequence the claim 28 is patentable over the art of record.

Newly added claim 31 is also patentable for the reasons set forth above.

It is believed that the present amendment answers all the issues raised by the Examiner. Re-examination of the subject application is hereby requested and an early allowance of all the claims is solicited.

Respectfully submitted,

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